UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/890,231	07/27/2001	Kohtaro Sabe	450108-02861	9371

20999   7590   03/07/2005

FROMMER LAWRENCE & HAUG
745 FIFTH AVENUE- 10TH FL.
NEW YORK, NY 10151

EXAMINER
ZHU, JERRY

ART UNIT	PAPER NUMBER
2121	

DATE MAILED: 03/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/890,231	SABE ET AL.
	Examiner	Art Unit	
	Jerry Zhu	2121	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-47* is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *13-32* is/are allowed.

6)☒ Claim(s) *1-12 and 33-47* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All   b)☐ Some *   c)☐ None of:

         1.☐ Certified copies of the priority documents have been received.

         2.☐ Certified copies of the priority documents have been received in Application No. _____.

         3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
     Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Claims 1-47 are examined. Claims 1-12 and 33-47 are rejected. Claims 13-32 are allowed.

Specification

The disclosure is objected to because of the following informalities: paragraph 22, line 8 "a fist step" should be "a first step." Appropriate correction is required.

Claim Rejections - 35 USC § 102

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

1. Claims 1-12 are rejected under 35 U.S.C. 102(a) as being anticipated by Takamura et, al with PCT Pub. No. WO00/67961 related to U.S. Pat. No. 6,445,978 (Takamura). Specifically,

Claim 1

2. Takamura teaches a robot apparatus comprising:

- Memory means for storing behavioral models (col. 10, lines 42) (col. 34, lines 38-40)

- Action generating means to generate action by using full or partial state space of behavior model (col. 17, lines 27-32)

- Means to expand or reduce state space of behavior models (col. 17, lines 32-43)

Claim 2-3

3. Takamura teaches

- behavioral models consisting of probability state transition models (Col. 9, lines 43-50; col. 10, lines 38-48)

- action generating means that change the probability transition to a value of zero or higher than zero to alter state space of behavior models (col. 18, lines 29-47; and col. 17, lines 39-42)

Claim 4

4. Takamura teaches

- Growth models which grow stepwise (col. 6, lines 37 –44)

- Action generating means by changing state space to be used in accordance with growth models (col. 18, lines 53-67; col. 19, lines 1-7)

Claim 5, 6

5. Takamura teaches a robot apparatus having state transition models of behavior models comprising:

- state transition model that allocates a node group consisting of predetermined nodes to a virtual node (Behavior models are made of a number of connected nodes, col.10, lin.35-37) (virtual nodes are nodes to be transitioned to from current nodes and the transition from current nodes to virtual nodes is described in an action plan, a directed graph, col.10, lin.58-67 and col.11, lin.1-6)

- means to change the node group into virtual node (col.10, lin.16-27).

- growth models which grow stepwise (col. 6, lines 37 –44)

- change of node group to virtual node in accordance with growth models (col. 18, lines 53-67; col. 19, lines 1-7)

Claim 7

6. Takamura teaches a control method of robot apparatus having behavior models comprising:

- Generate action by using state space of behavioral model (actions are generated based on behavior models, col.2, lin.22-25; and behavior models are represented in state space therefore behavioral models corresponds to state space models col.17, lines 27-38)

- Change state space of behavioral model (col.2, lin.25-33; col. 17, lines 32-43)

Claim 8-10

7. Takamura's control method further comprising:

- behavioral models consisting of probability state transition models (Col. 9, lines 43-50; col. 32, lines 27-32)

- alter behavior models by setting and changing the transition probability value to zero or higher than zero so the state space is reduced or expanded (col.17, lin.66-67, col.18, lin.1-6, 29-47; and col. 30, lines 43-49)

- growth models which grow stepwise (col. 32, lines 20-25) (col. 6, lines 37 – 44)

- change state space of behavioral models in accordance with growth models (col. 18, lines 53-67; col. 19, lines 1-7; col. 32, lines 10-15)

Claim 11, 12

8. Takamura teaches a control method of robot apparatus having state transition models comprising:

- First step describing transition of nodes of behavior model to predetermined node (col.10, lin.58-67 and col.11, lin.1-6)

- Second step completing the transition (the transition of nodes are determined by behavioral determining mechanism using state transition table, col.10, lin.38-48)

- growth models which grow stepwise (col. 32, lines 20-25) (col. 6, lines 37 –44)

- change nodes in state space in accordance with growth models (col. 18, lines 53-67; col. 19, lines 1-7), (col. 32, lines 10-15)

9. Claims 33-47 are rejected under 35 U.S.C. 102(a) as being anticipated by Hasegawa et al with PCT Pub. No. WO00/56506 related to U.S. Pat. No. 6,385,506 (Hasegawa). Specifically,

Claims 33, 34, 39

10. Hasegawa teaches a robot apparatus comprising:

- Detecting means for detecting an output from another robot (col.3, lin.35-42).

- Character discriminating means for discriminating character of another robot (col.7, lin.65-67; col.8, lin.1-4).

- Character changing means for changing own character based on result detected from the environment (col.13, lin.20-39)

- Action control means for moving the robot based on action information (col.4, lin.66-67; col.5, lin.1-8)

- Character changing means for changing action information as a result of character discrimination (col.13; lin.34-39)

Claim 35, 36

11. Hasegawa teaches about detecting means

- Detecting action of another robot (col. 3, lin.29-34)

- Recognize emotions of another robot (col.3, lin.29-35; col.7, lin.56-64. Hasegawa teaches how a robot can detect and recognize voice and image from another robot. The emotions can be expressed in these voices and images)

- Discriminating character of another robot (col.7, lin.65-67; col.8, lin.1-4).

Claims 37, 38

12. Hasegawa teaches:

- Character changing means (col.13, lin.20-39)

- Detecting character data from another robot (col.3, lin.29-35; col.7, lin.56-64. Hasegawa teaches how a robot can detect and recognize voice and image from another robot. Character data can be expressed in these voices and images)

- Discriminating character data from another robot (col.7, lin.65-67; col.8, lin.1-4).

Claims 40

13. Robot apparatus Hasegawa teaches also comprising:

- Memory for storing action patterns of another robot (col.3, lin.25-26 and 54-61, the discrimination information shall include actions and feelings of another robot etc.)

- Comparing action of another robot with its emotions stored in memory (col.4, lin.57-65)

Claim 42-47

14. Claim 42's detecting output of a robot to discriminate a character of the robot is anticipated at (col.3, lin.29-35).

15. Claim 43's "a character discriminating result is used for changing a character of another robot" is anticipated by "discriminating information which is for specifying a robot apparatus targeted for transmission and communication information (col.1, lin.42-45)." The discriminating information is to be transmitted to the target robot and therefore alters a character of the target robot.

16. Claim 44's "an emotion is recognized ...which is an output ... to discriminate a character of said robot" and claim 45's "character of robot is discriminated ... within a definite time" are anticipated by "detecting an output from another robot (col.3, lin.35-42)" and "discriminating character of another robot (col.7, lin.65-67; col.8, lin.1-4)." These actions are operated by programs operated in computers. It is inherent that computer application programs are tested in such way that it perform as intended to finish in finite time.

17. Claim 46's "character data ... is an output detected to discriminate a character of robot .." is anticipated by "detecting output of a robot (col.3, lin.29-35) and to discriminate a character (col.7, lin.65-67; col.8, lin.1-4)."

18. Claim 47's " Another robot ... recognizes an emotion by comparing an action ... with action plan" is anticipated by "receiving information ... from ... another

robot; ... and compares the discrimination information and discrimination

allocated ... to decide its motion (col.1, lin.39-59.)"

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

19. Claim 41 rejected under 35 U.S.C. 103(a) as being unpatentable over

Hasegawa as applied to claim 33 above in view of Van Kommer U.S. Pat. No.

6584376. (Kommer)

20. Hasegawa discloses detecting means for detecting an output from another

robot and character discriminating means to discriminating character of

another robot. Fasegawa fails to disclose ways and means to carry a

dialogue between a user and a robot. Kommer discloses means to have a

dialogue between an operator and a mobile robot (col.6, lin.26-52). One of

ordinary skill in the art would have provided the dialogue taught by Fasegawa

, for the purpose of changing character state of a robot also from a

information other than for another robot such as a user. As a result it would

have been obvious to one of ordinary skill in the art at the time of applicants'

invention to modify the system taught by Hasegawa by adding the dialogue

mechanism taught by Kommer.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

21. Claims 42-47 rejected under 35 U.S.C. 112, second paragraph, as being

incomplete for omitting essential steps. It is not clear what are the steps of

the methods claims are. See MPEP § 2172.01.

Conclusion

Any inquiry concerning this communication or earlier communications from

the examiner should be directed to Jerry Zhu whose telephone number is (571)

2724237. The examiner can normally be reached on 9:30 - 6.

If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, Anthony Knight can be reached on (571) 272-3687. The

fax phone number for the organization where this application or proceeding is

assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jerry Zhu
Examiner
Art Unit - 2121
Monday, December 06, 2004

Anthony Knight
Supervisory Patent Examiner
Tech Center 2100